

In the Claims

Applicant has submitted a new complete claim set showing marked up claims with insertions indicated by underlining and deletions indicated by strikeouts and/or double bracketing.

Please cancel claims 2, 4, 6-13, 15, 19-22, 24, 25, 27, 28, and 30-35 without prejudice or disclaimer.

Please amend pending claims 1, 3, 5, 14, 16-18, 23, 26, and 29 as noted below.

Listing of the Claims

1. (currently amended) A device that receives and processes signals from a telephone line and supports a plurality of telephone signal protocols, comprising:

a converter circuit that digitizes input signals received on the telephone line;

a fixed-rate clock that provides to the converter circuit a substantially fixed-rate clock signal; and

a digital filter circuit that filters the digitized input signals to separate signals associated with different protocols, wherein the digital filter circuit is associated with at least one variable sampling rate.

2. (canceled)

3. (currently amended) The telephony device of ~~claimed in~~ claim 1 wherein the digital filter circuit comprises a variable-ratio decimation filter ~~2 further comprising an isolation barrier circuit, an analog front end circuit, a digital to analog converter and an analog to digital converter, coupled to the analog signal path.~~

4. (canceled)

5. (currently amended) The telephony device of ~~claimed in~~ claim 3 wherein the variable-ratio decimation filter filters one of the separate signals, which is associated with a DSL protocol, and wherein the digital filter circuit further comprises a second variable-ratio

decimation filter that filters a different one of the separate signals, which is associated with a POTS protocol further including digital filter circuits.

6-13. (canceled)

14. (currently amended) A device that processes signals received on a communication link for supporting a plurality of signal protocols, the device comprising:

a first sample-rate converter that converts a sample rate of a digital signal associated with a first protocol of the plurality of signal protocols;

a second sample-rate converter that converts a sample rate of a digital signal associated with a second protocol of the plurality of signal protocols; and

a digital to analog converter, coupled to the communication link, that outputs a single analog signal associated with both the first and second protocols in response to the two sample-rate converted digital signals ~~sampld data stream that is representative of at least two components each having an association with a respective one of at least two of the plurality of signal protocols.~~

15. (canceled)

16. (currently amended) The device of claim 14 wherein the first sampling rate filter comprises an interpolation filter ~~a converter receives an analog signal having at least two components each associated with a respective one of the at least two of the plurality of signal protocols.~~

17. (currently amended) The device of claim 16 wherein the interpolation filter has a variable sampling rate ~~converter comprises an analog to digital converter circuit.~~

18. (currently amended) A device that receives and processes signals from a communication link and supports a plurality of signal protocols, comprising:

a an analog to digital converter, coupled to the communication link, that receives an analog input signal indicative of a signal on the communication link and outputs a digital signal sampled data stream representative of the analog input signal; and

a digital filter, comprising a first decimation filter and a second decimation filter, that receives the digital signal and outputs at least two separate digital signals each having an association with a respective one of at least two of the plurality of signal protocols, wherein the first decimation filter provides a first signal of the at least two separate digital signals, and the second decimation filter provides a second signal of the at least two separate digital signals.

19-22. (canceled)

23. (currently amended) The device of claim 18 ~~19~~ wherein the first signal is associated with a one of the digital filters ~~comprises a type of digital filter selected from a group consisting of POTS signal protocol, ADSL and IDSN,~~ and the second signal is associated with a protocol one of the digital filters ~~comprises a type of digital filter selected from a group consisting of POTS, ADSL and IDSN, and a different type than POTS~~ the type of the first digital filter.

24-25 (canceled).

26. (currently amended) The device of claim 18 ~~19~~ wherein the first one of the at least two of the plurality of signal protocols occupies a first bandwidth and the second one of the at least two of the plurality of signal protocols occupies a second bandwidth that does not overlap the first bandwidth.

27-28 (canceled).

29. (currently amended) The device of claim 18 ~~14~~ wherein the digital filter further comprises ~~includes at least two decimation digital filters and~~ at least two interpolation digital filters, ~~each of the at least two decimation digital filters having an association with a respective one of at least two of the plurality of signal protocols, and~~ each of the at least two interpolation digital filters having an association with a respective one of the at least two of the plurality of signal protocols.

30-35. (canceled)